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ABSTRACT

Focusing on school failure among lower-class and minority children, the paper reexamines the relationship between "cognitive style" and school performance, and questions whether lower-class school failure really concerns cognitive performance at all. "Cognitive style" is defined as information processing habits which represent the learners' typical modes of perceiving, thinking, remembering, and problem solving. Review of the literature on educational achievement reveals two major categories of cognitive style, usually termed the analytic and the nonanalytic (or the abstract and the concrete). Most developmental psychologists and educators consider the analytic cognitive style as superior to the nonanalytic style. Because many lower-class and minority children manifest a nonanalytic cognitive style, they fail more often in school. Explanations for this failure, often contradictory, do not give sufficient consideration to the situation to which particular cognitive processes are applied. Cross-cultural research on learning characteristics indicates that children demonstrate the same basic cognitive processes in some situations but that these processes are not necessarily reflected in cognitive performance tests in school. The conclusions are that cognitive performance is inextricably related to the social and cultural tradition which produced it, but cannot be directly correlated with cognitive style until further research is done on other variables such as social status, students' fear in test situations, and invalid tests. (Author/DB)

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"COGNITIVE STYLE" AND SCHOOL FAILURE

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"COGNITIVE STYLE" AND SCHOOL FAILURE[1]

Many, many theories have been advanced to explain the school failure of poor children, particularly Black, Chicano and other "minority" children,[2] in the United States. Some theories blame teachers or the schools; others attribute school failure to the child's traits. One trait frequently mentioned in educational literature is generally referred to as 'cognitive style." I will criticize the notion of "cognitive style" by appealing to cross-cultural evidence that situations rather than "traits" determine cognitive performance. Then I will take the situational critique a step further to ask whether lower-class school failure really concerns cognitive performance at all.

Most authors use the term "cognitive style" to mean the "characteristic" way in which a person perceives and categorizes stimuli (e.g., Kagan, Moss and Sigel, 1963:74). Some researchers broaden the definition to refer to the whole approach a person takes toward solving problems (Kagan and Kogan, 1970; Hertzig, 1971).

In general, the literature proposes two types of "cognitive style," usually termed the "analytic" and the "nonanalytic," or the "abstract" and the "concrete." Whereas success on IQ tests and other school-related cognitive tasks is said to require an "analytic" or "abstract" style, some children tend to take a "nonanalytic" or "concrete" approach. Such children will perform more poorly on IQ tests and may have more difficulty learning in the classroom (Cohen, 1969; Thornell, 1976). Poor,

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[1]Thanks to George Spindler, Louis Golomb, Robert Paul and Charles Frake for criticism and suggestion on the previous draft of this paper. Naturally any errors are my own.

[2]I will refer to these children as members of the "lower class" without attempting to define the term. However, as I will mention later, social class and ethnic identity tend to get confounded in the literature.

Black, Chicano, Puerto Rican and other "disadvantaged" children are more likely to demonstrate a "nonanalytic" or "concrete" style on experimenters' tests. Thus, in the manner of other trait theories, this model proposes that the child's "cognitive style" mediates the relationship between his social identity[3] and his educational achievement.

Before elaborating on the concepts of "analytic" and "abstract," I should warn the reader that my references to the cognitive-styles literature lump together the work of reseachers who have studied somewhat different phenomena. For instance, Kagan and his associates first used the notion of "cognitive style" to describe the ways in which people categorized a set of pictures (Kagan, Moss and Sigel, 1963). Although Kagan has since shifted his interest to the notion of "reflective" and "impulsive" response styles (Kagan, 1966), other researchers continue to draw heavily on Kagan's earlier work on categorization. (See particularly Cohen, 1969 and 1971; also Denney, 1974, and studies mentioned in Thornell, 1976.) In contrast, Witkin (1967) measures what he calls "cognitive style" with tests of field dependency. Hertzig and her associates (1971) take the less quantitative approach of recording children's verbal and nonverbal approaches to experimental tasks. Finally, many researchers, notably Basil Bernstein, rely on linguistic data to make inferences about "cognitive style" (Bernstein, 1971:61-62; Blank and Solomon, 1968).

Despite the variation in their methods, all of these researchers use terminology like "analytic" and "abstract" in their writing. An "ana-

[3]"Social identity" refers to a person's ethnicity, social class or other label which other people apply to him and use to rank him with respect to themselves. The term, like "subculture," is vague and depends for precise meaning on the context of a particular situation.

lytic" style is the tendency to perceive the parts of stimuli and to categorize accordingly. A "nonanalytic" or "relational" style is the tendency to perceive stimuli as wholes, and to categorize according to global or functional characteristics. For example, given the task of categorizing pictures of people, if the subject points out that all people with one arm raised "go together," he has given an "analytic" response. If he points out that all the girls or all the doctors "go together," or that a man, a woman and a child "go together" because they form a family, he has given a "nonanalytic" response (Kagan, Moss and Sigel, 1963:76; Cohen, 1969:854).

Although the concepts of "abstract" and "concrete" appear more often in the literature on language styles, some cognitive-styles researchers explicitly discuss "abstract thinking" (Blank and Solomon, 1968). Not all authors assume that "abstract" thinking and "analytic" thinking necessarily co-occur (e.g., Cohen, 1969:840). However, developmental psychologists tend to interpret "analytic" and "abstract" responses as two signs of the same, higher stage of cognitive development (Kagan, Moss and Sigel, 1963:73-74).[4] They seem to reason that both "analytic" and "abstract" thinking are processes of "differentiation" (see Witkin, 1967). That is, to "analyze" is to break a stimulus into parts, and to "abstract" is to separate a part from its original context (compare Werner, 1948:243).

Cognitive-styles literature, like most educational literature, contains both deficit and difference models of lower-class thinking.

[4]Compare Piaget (1950), who seems to regard the process of cognitive development as first a shift to greater articulation (from preoperational to operational), and then a shift from "concrete" to "abstract" (concrete to formal operations).

As mentioned, developmental psychologists usually consider the "analytic" style as later than and superior to the "nonanalytic" style. Therefore, they regard "nonanalytic" responses by older children as a sign of cognitive deficit. In contrast, Cohen, Bernstein (in his later writings), and other authors assert that the "nonanalytic" approach represents not the lack of "analytic" thinking, but a positively different style. Educators have made much of the distinction between deficit and difference models, and the distinction may well make a difference in teachers' attitudes toward their students. At the level of educational policy, though, given the assumption that school tasks favor an "analytic" style, both models prescribe similar forms of compensatory education for the child who fails to think "analytically" (Gibson, 1976).

Now, why should lower-class or "minority" children tend to manifest the disfavored "nonanalytic" style? Most cognitive-styles researchers attribute the deficit or difference to patterns of socialization thought to be typical of the child's subculture. Hess and Shipman (1965) and Hertzig (1971) document specific, subcultural styles of parental teaching which, they infer, directly affect the child's cognitive approach. Other researchers suggest more vague processes whereby the organizational style of the family somehow translates to a "cognitive style" in the child. Unfortunately, different versions of the family-organization model contradict each other. On the one hand, Cohen claims that "analytic" styles tend to develop in "formally organized" primary groups, where critical functions such as child care are formally defined and attached to specific status roles. "Relational" styles, then, tend to develop in "shared function" primary groups.(1968; 1969). Witkin's argument resembles Cohen's; he claims that the child who grows up in a

"variegated," highly structured envirnoment will manifest a more "articulated" style, while the child from a "homogeneous" environment with little structure will manifest a more global style (1967). On the other hand, Bernstein's model inverts Cohen's. Bernstein argues that individuals with elaborated (read: "analytic") codes come from "person-oriented" families where roles are ambiguous, while individuals with restricted codes come from "positional" families, where there is a clear separation of roles (1971:152-154). Although Cohen refers to Bernstein with favor, she never points out the contradiction between her argument and his. Nor do Ramirez and Price-Williams (1974), who claim to follow Cohen's model, explain their apparently contradictory finding that among the ethnic groups where they found greater field dependence (read: global style) they also found more formal father-child relations and greater emphasis on authority.

Cognitive-styles studies also contradict each other in their definitions of "subculture." Some attribute "cognitive style" to the socialization typical of an ethnic group. For example, Lesser, Fifer and Clark (1965) found children's "patterns" of mental abilities related strongly to ethnicity but not to social class. (See also Hostetler and Huntington, 1971:55). Yet Bernstein and others write as though family organization and socialization patterns were associated with social class more than ethnicity (Bernstein, 1971:61-62). Cohen claims that the "nonanalytic" style predominates in a section of the low-income population "regardless of ethnic differences" (1969:831). Therefore, researchers who fail to control for social class (e.g., Ramirez and Price-Williams, 1974; Ramirez, Castañeda and Herold, 1974) undermine their own argument that cognitive differences derive from different

cultural traditions. Hertzig (1971) at least makes explicit that ethnicity and social class are confounded in her studies. As she points out in justification, ethnic identity and social class are generally confounded in real life in the United States.

The Fallacy of "Cognitive Styles" Explanations

Anthropologists will have recognized that the cognitive-styles literature echoes the old anthropological discussion of "primitive" and "modern" modes of thought (Drucker, 1971). One could easily substitute the lower class or "minorities" as the subject of Levy-Bruhl's contention that "Primitive mentality . . . hardly ever analyzes, nor does it think in abstract terms" (1923:402-403), and "With primitives, both thought and language are almost exclusively concrete" (1923:433). In fact, the echo is not coincidental. Kagan and Kogan (1970:1284) specifically give credit to Heinz Werner, a psychologist who studied "primitive" mentalities,(Werner, 1948), for inspiring much of the current research on "cognitive styles."

Hallowed though the "abstract/concrete" and "analytic/nonanalytic" dichotomies be, they are subject to criticism even on purely logical grounds. Leacock (1972) attacks the distinction between "abstract" and "concrete" speech by arguing that all speech, from casual conversation to philosophical reasoning, contains both abstract and concrete elements. Frake (class notes) criticizes the developmental psychologists' notion that "abstract" thinking and "analytic" thinking "go together." Abstraction involves not just the isolation of a feature from its context, he argues, but also the lumping together of different objects on the basis

of a like feature. The latter operation is the opposite of "analytic" differentiation.

Behavioral scientists may find empirical evidence more convincing than the logical critique of "cognitive styles." Cole, Gay, Glick and Sharp (1972) have gathered such data on the Kpelle of Liberia. The researchers' painstaking experiments and ethnography dispel the notion that a people either "has" or doesn't "have" various cognitive processes, such as an "analytic" or "abstract" approach. Cole, et al., found that although a Kpelle might fail to manifest a given process on a specific test, he could usually be observed to use the process on a differently constructed test or in some situation of everyday life. They conclude that

> cultural differences in cognition reside more in the situations to which particular cognitive processes are applied than in the existence of a process in one cultural group and its absence in another (1972:233; emphasis theirs).

That is, cognitive performance depends not so much on some cognitive trait as on the context of the testing situation.

Cole's conclusion ought to be applicable to American subcultures,[5] which resemble each other more than the Kpelle culture resembles the Western culture, to which it was compared. In fact, Labov's linguistic research on lower-class American Blacks (1969) strongly suggests that cognitive research modeled on Cole's methodology would confirm Cole's findings for American subcultures. For the time being I will accept the as yet unproven assertion that one can always find a situation in which "out" culture children demonstrate at least as much com-

[5]Again, I will use the term "subculture" loosely, as Cole and Bruner (1972) do, to refer to any group of Americans whom we can agree to identify as distinct in some way from other Americans. I will borrow Cole and Bruner's term, "out" culture, to refer to Americans other than White, middle-class citizens.

petence in a given cognitive process as middle-class White children (Cole and Bruner, 1972:168). It follows that no group of children can be said to have a cognitive deficit in an absolute sense. Nor can children from different subcultures be said to have different "cognitive styles." The concept of "cognitive style" as a characteristic mode of categorizing or reasoning makes no sense if all people demonstrate the same basic cognitive processes in some situations or others.

How, then, can we explain the findings that "out" culture children apparently fail to demonstrate their basic cognitive competences on cognitive-styles tests? First, we ought to investigate the data's validity. Is it not possible that the tested children actually did demonstrate analytic and abstract thought processes which the researchers simply failed to recognize? After all, Leacock (1972) and Frake (class notes) have implied that linguists and psychologists show some confusion about the meaning of "analytic" and "abstract." Of course, in all fairness to cognitive-styles researchers, there is good reason to question whether <u>any</u> test responses and test scores validly represent the cognitive processes which went into their production. (See Leiter, 1974 and 1976; MacKay, 1974; and Roth, 1974.)

Since questioning the cognitive-styles data in this manner stirs up a philosophical hornet's nest, I will assume for the sake of argument that "out" culture children really do fail to demonstrate their cognitive competence in experimental testing situations. Again, why? An explanation expressed strictly in terms of cognition would run as follows: Before applying a cognitive skill to a problem, a person must recognize that the skill would be appropriate in that context. If the context is familiar, that is, if the person has had experience with similar types of situations, then choosing an appropriate problem-solving

strategy is almost a matter of habit. If the context is novel, though, the person will be left groping for the right approach. Presumably, members of different subcultures will have had experience with different sets of problem-solving contexts (Cole and Bruner, 1972; compare Cazden, 1970:55). The context of cognitive-styles tests must be unfamiliar to children from "out" cultures, explaining the children's poor performance.

Unfortunately, this explanation contains a snag. It ignores lower-class children's experiences in school. Cognitive-styles tests are meant to resemble the cognitive tasks of everyday schoolwork (Scribner and Cole, 1973; Thornell, 1976). Why would "out" culture children who've spent some time in school perform on cognitive tests as though they'd had no experience with such contexts?

One could argue that cognitive-styles texts really have nothing to do with school tasks after all. Yet Cole, et al., found that Kpelle children who had spent a few years in Western-style schools performed very like middle-class American children on their cognitive experiments (1972:140-141). Even Kagan, Moss and Sigel report that American children generally give an increasing proportion of "analytic" responses as they progress from first to sixth grade (although Kagan, et al., explain this finding in terms of the children's cognitive development) (1963:90-92). This evidence suggests that schooling does give children familiarity with the contexts of cognitive tests. If Kpelle children can transfer their basic cognitive competences to school tasks and cognitive tests, why couldn't lower-class American children do the same?

The Fallacy of "Cognitive" Explanations?

Clearly the failure of school-aged lower-class children to give

the desired "analytic" responses depends on more than their exposure to cognitive experiences. Either something has blocked the children's ability to benefit from school experiences, or something is blocking their performance during the testing situation. Labov makes the latter argument with respect to linguistic tests. He implies that "out" culture children could perform adequately on the experimenters' tests if the children were not preoccupied with their own definition of the situation. In fact, the child recognizes the test as "an assymmetrical situation where anything he says can literally be held against him" (1969:185), and he responds defensively by saying as little as possible. According to Labov, poor test performance reflects the child's social status and vulnerable position more than his unique cognitive experiences as a member of his subculture.

Cole and Bruner (1972) hesitate to explain the child's performance solely in terms of features of the testing situation. They even speculate that the lower-class child may be unable to transfer his cognitive skills from the context of familiar social interactions to the supposedly novel context of school tasks.[6] Yet, given the relative ease with which Kpelle children make a transfer, the proposed "inability" of "out" culture children could scarcely be blamed on cognitive factors. As with Labov's explanation, we are forced to appeal to noncognitive features of the situation to explain the lower-class children's performance. And if noncognitive features affect performance on supposedly controlled tests of "cognitive" processes, how much more they must affect performance on

[6]More precisely, Cole and Bruner, and Scribner and Cole (1973), argue that school tasks require learning "out of context" entirely. However, as Frake points out (class notes), all thinking and behaving goes on in some context or other. Therefore, school tasks must present not an <u>absence</u> of context, but a <u>different</u> context.

"cognitive" tasks in the classroom.

What sorts of noncognitive features of situations could explain school failure?[7] Studies which address this question take Cole's focus on the situation one step further, to demonstrate how "cognitive" performance and other behaviors in school are "accomplished" in the give and take of particular social interactions. For example, McDermott (1976) has documented how in one first grade, the children and teacher participating in the "low ability" group produced reading failure by making reasonable adaptations to the group's "low ability" status. More to the point of our interest in "cognitive" processes, Mehan (1974) and others in Cicourel, et al.,(1974) have demonstrated how the production of "cognitive" performances in particular classes or on particular tests depended more on the child's reading of contextual cues than on the cognitive process supposedly being evaluated.

To my knowledge, no researcher has yet documented a series of social interactions in which the child's lower-class or ethnic identity directly contributed to the "accomplishment" of school failure. However, McDermott (1974) proposes one hypothetical scenario for such a process. He suggests that a teacher may misinterpret brief communication breakdowns between himself and a child, due to the use of different kinesic codes, as evidence of a cognitive deficit in the child. If the teacher then assigns the child to a "low ability" group, the lowest status in the classroom system, the child may opt out of the teacher's system entirely and "learn not to read." McDermott's scenario presupposes that social

[7] Of course, sociologists have proposed many noncognitive factors to explain lower-class school failure; see Kagan and Zahn (1975) for one list. However, they usually treat the factors as "traits" of the children, of the teacher, or of the school, rather than as features of particular situations.

identity is "accomplished" in social interactions through the use of linguistic codes, body language, and other channels. If the teacher and the child are using different "codes" to accomplish different identities (e.g., White and Black), they may occasionally find each other uncomfortably "out of sync" and mutually unintelligible (compare Erickson, 1975). It is in these moments of unintelligibility that the teacher, seeking to make sense of the situation, lights on the hypothesis (salient in the folk theories he has learned in schools of education and teachers' lounges) that the child is "not ready to read." The hypothetical teacher is not stupid or racist. Rather he is making an error of interpretation as subtle and common-sensical as those made by some psychologists in interpreting children's performances on cognitive-styles tests.

Note that in McDermott's scenario, the same set of interactions between child and teacher both accomplishes their respective social identities and launches the child on his history of school failure. One need posit no "traits" to mediate the relationship between social identity and school performance if both can be produced by the identical chain of social interactions. Thus, not only is the notion of "cognitive style" nonsensical in McDermott's explanation, but even the child's actual cognitive performance has become a red herring in such a case.

Conclusion

Admittedly, the argument that cognition need not be the real issue in school failure depends more on speculation than on empirical documentation. It would be fitting, then, to summarize the two steps in this paper's argument by mentioning problems which each step suggests for future research.

If researchers have confidence in their ability to identify cognitive performances accurately, they ought to replicate and extend the research of Cole, et al (1972) within various American subcultures. They should systematically attack the cognitive-styles literature just as Cole and his associates attacked the literature on the "primitive" mode of thought. Two questions particularly need answering:

(1) Do all children actually demonstrate the same cognitive processes in one context or another, as Cole and Labov imply?

(2) In what sorts of situations do middle-class children and children from other "subcultures" gain experience with cognitive processes? In particular, is it correct to assume as many reasearchers do that "out" culture children enter school without familiarity with the contexts of school-related cognitive problems?

However, the last section of this paper raised doubts about whether cognitive performance is essential to explaining lower-class school failure. Before embarking on studies of cognitive experiences in home and school, researchers like myself might choose to begin with questions like the following:

(3) What is really going on in particular situations in which teachers assume they are evaluating "cognitive" performances? Can cases be documented in which teachers respond to manifestations of social identity as though they were symptoms of cognitive ability?

(4) How do middle-class and "out" culture children define those situations which teachers define as evaluations of cognitive performance?

Finally, educational researchers--typically optimistic souls--ought to pause to consider issues which have only been hinted at in this paper. A frequent goal of educational research is to promote reforms toward greater equality of educational opportunity. Yet will equality of education really lead to a more equitable

distribution of jobs and other goods, as researchers often assume? If school success is inextricably bound up in the larger system of social identity and status, as some interactionist and much other research implies, then we cannot count overmuch on educational reform in itself to accomplish social justice. The holistic perspective of anthropology makes us realize that we can't understand or change schools in isolation from their societal context, any more than we can understand a cognitive performance outside the context in which it was produced.

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